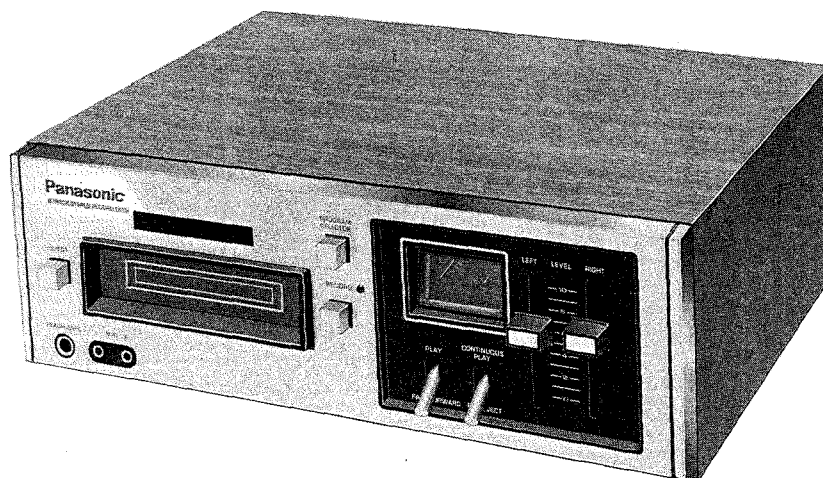


Service Manual

8Track Stereo Deck RS-805US

8-Track Stereo Recording/Playback Cartridge Deck



This is the Service Manual of Model RS-805US for PX.

RS-817S MECHANISM SERIES

Specifications (Catalog specifications for sales)

| | | | |
|------------------------|--|---------------------|---|
| Power requirement: | AC; 90~109, 110~125, 200~219, 220~250V, 50/60Hz | Inputs: | MIC; 0.28mV applicable microphone impedance 200~600Ω (recommended microphone RP-8135) |
| | Power consumption; 6W | | LINE; 50mV/100KΩ |
| Track system: | 8-track 2-channel stereo recording and playback | Outputs: | LINE; 0.6V (at 0 VU) load impedance 50KΩ over |
| Recording system: | AC bias, AC erase | | HEADPHONES; output level 45mV/8Ω (at 0 VU) |
| Operation: | Cartridge slide-in system with Pana-Ject/ continuous play mechanism and remote control eject/program | REC/P.B connection: | DIN 5P terminal |
| Tape speed: | 3-3/4 ips. | Motor: | 1-motor system |
| Wow and flutter: | 0.17% (WRMS) | Head: | 1-head system |
| Frequency response: | 30~13,000Hz | Fast forward time: | Approx. 480 seconds with 300 feet tape |
| Signal to noise ratio: | 45dB | Program time: | 1 hour stereo recording with 300 feet tape |
| | | Dimensions: | 12-1/2"(W)×4-3/8"(H)×9-3/4"(D) |
| | | Weight: | 8-1/8 lbs. |

Specifications are subject to change without notice for further improvement.

Panasonic®

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LOCATION OF PARTS

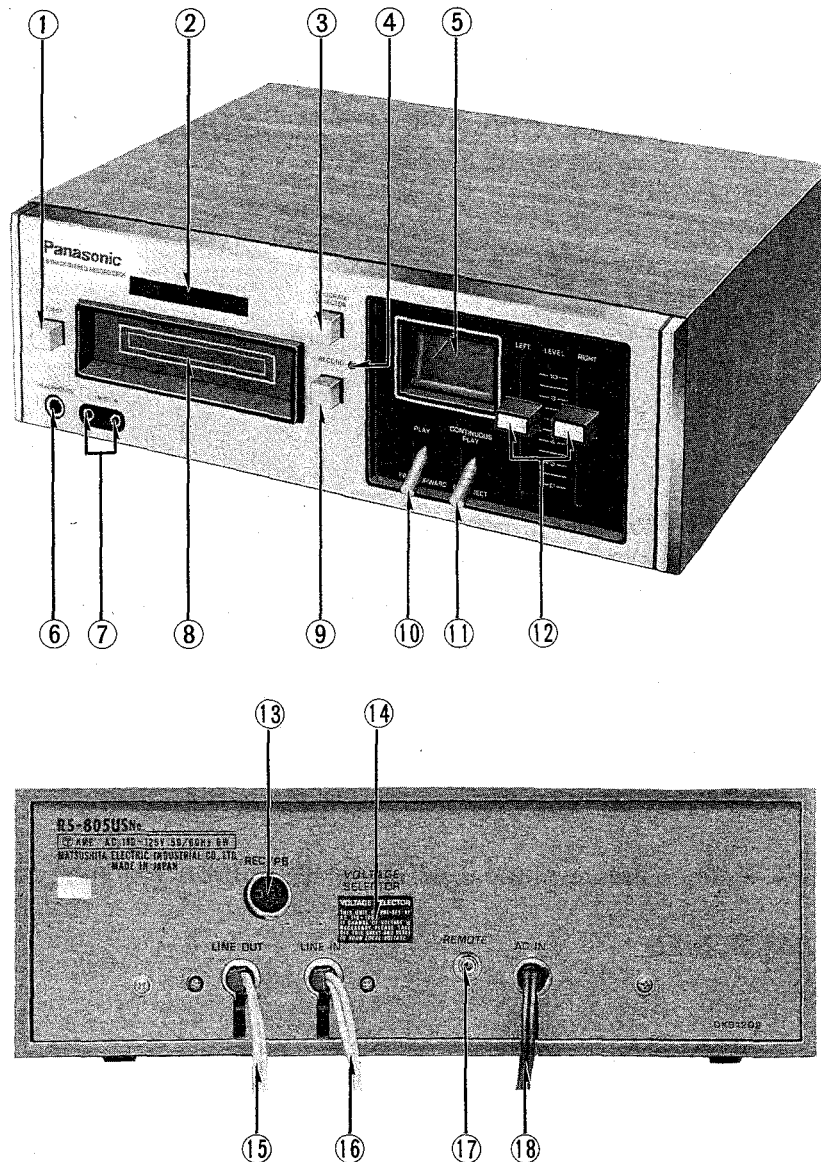
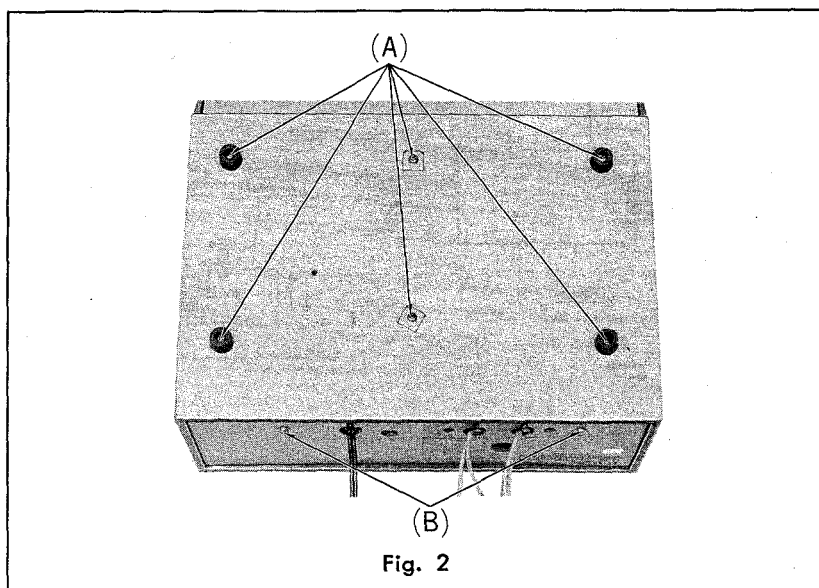


Fig. 1

- | | |
|-----------------------|-------------------------------------|
| ① Ejection button | ⑩ Play/fast forward control |
| ② Program indicator | ⑪ Automatic ejection switch |
| ③ Program selector | ⑫ Level adjustment controls |
| ④ Recording indicator | ⑬ Record/playback connection socket |
| ⑤ Level meter | ⑭ Voltage selector |
| ⑥ Headphones jack | ⑮ Line output cords |
| ⑦ Microphone jacks | ⑯ Line input cords |
| ⑧ Tape slot | ⑰ Remote control jack |
| ⑨ Record button | ⑱ Power cord |

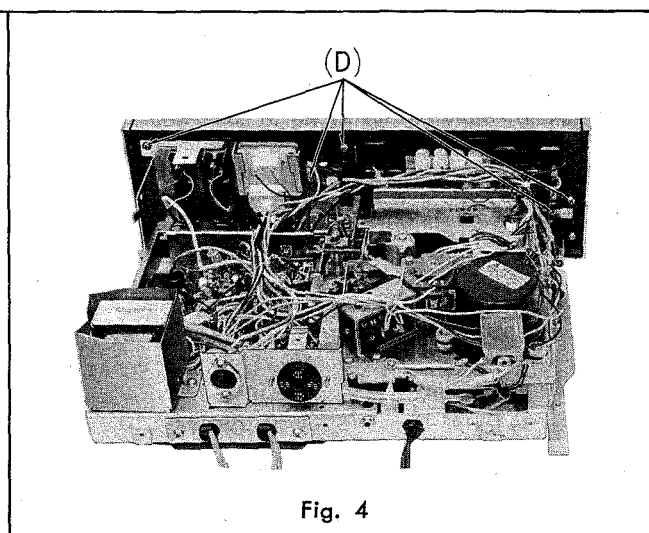
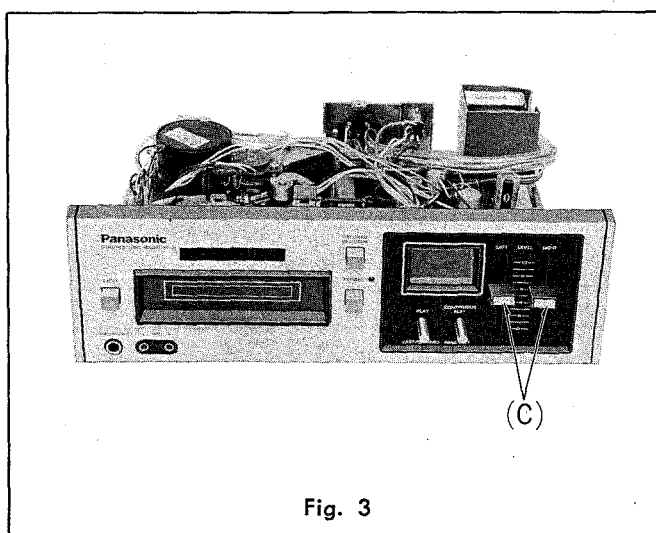
DISASSEMBLY INSTRUCTIONS

HOW TO REMOVE BODY CASE AND BACK BOARD



1. Remove 6 body case holding screws (A) and 2 back board holding screws (B).
2. Then body case and back board can be removed.

HOW TO REMOVE FRONT PANEL



1. Pull out 2 volume knobs (C).
2. Remove 5 front panel holding screws (D).
3. Then front panel can be removed.

MECHANICAL ADJUSTMENTS

PROGRAM SELECTION

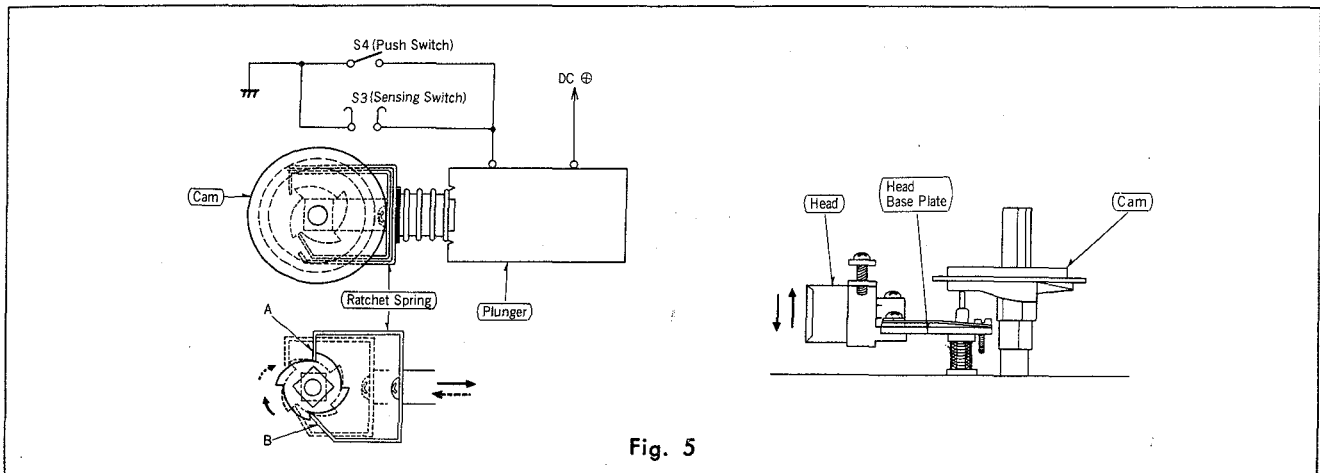


Fig. 5

Manual selection

1. When the push switch is pressed, the plunger operates.
2. Plunger pulls the ratchet spring to momentary then it returns to the left.
3. Ratchet spring turns the cam.
4. As the cam rotates, the head moves up and down and program is selected.

Automatic selection

If the sensing foil attached to the cartridge tape, the plunger functions when the sensing switch is closed by the sensing foil, thereby selecting program can be made automatically.

PRESSURE OF PRESSURE ROLLER

Instruments required:

Standard cartridge for measuring of pressure roller, spring gauge.

Measuring figure:

Refer to fig. 6.

Measuring method:

Insert the standard cartridge in the tape recorder, and take the measurement by pulling it with the spring gauge.

Standard value:

1200 ± 200 gr.

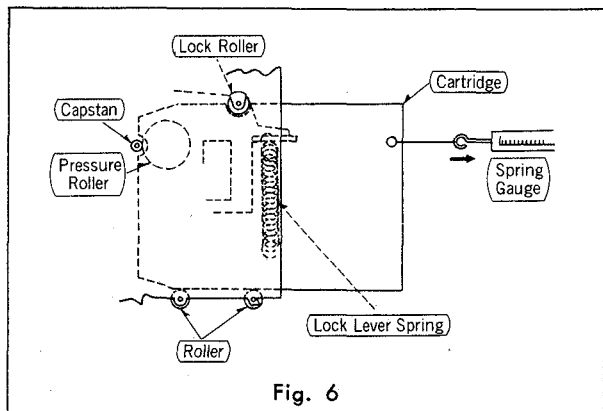


Fig. 6

HEAD PLATE ATTRACTION

Instrument required:

Spring gauge.

Measuring figure:

Refer to fig. 7.

Measuring method:

Place the set into the mode of program 1, and take the measurement by pushing it downward with the spring gauge.

Standard value:

110 ± 20 gr.

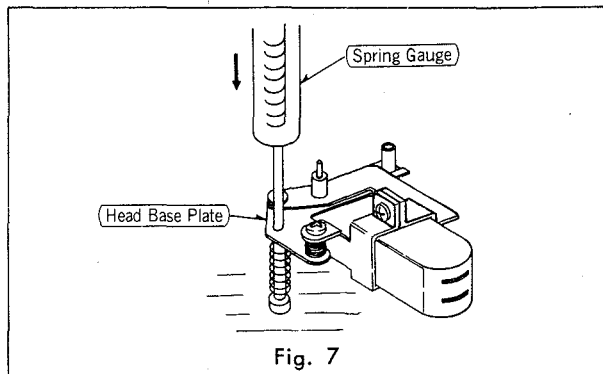
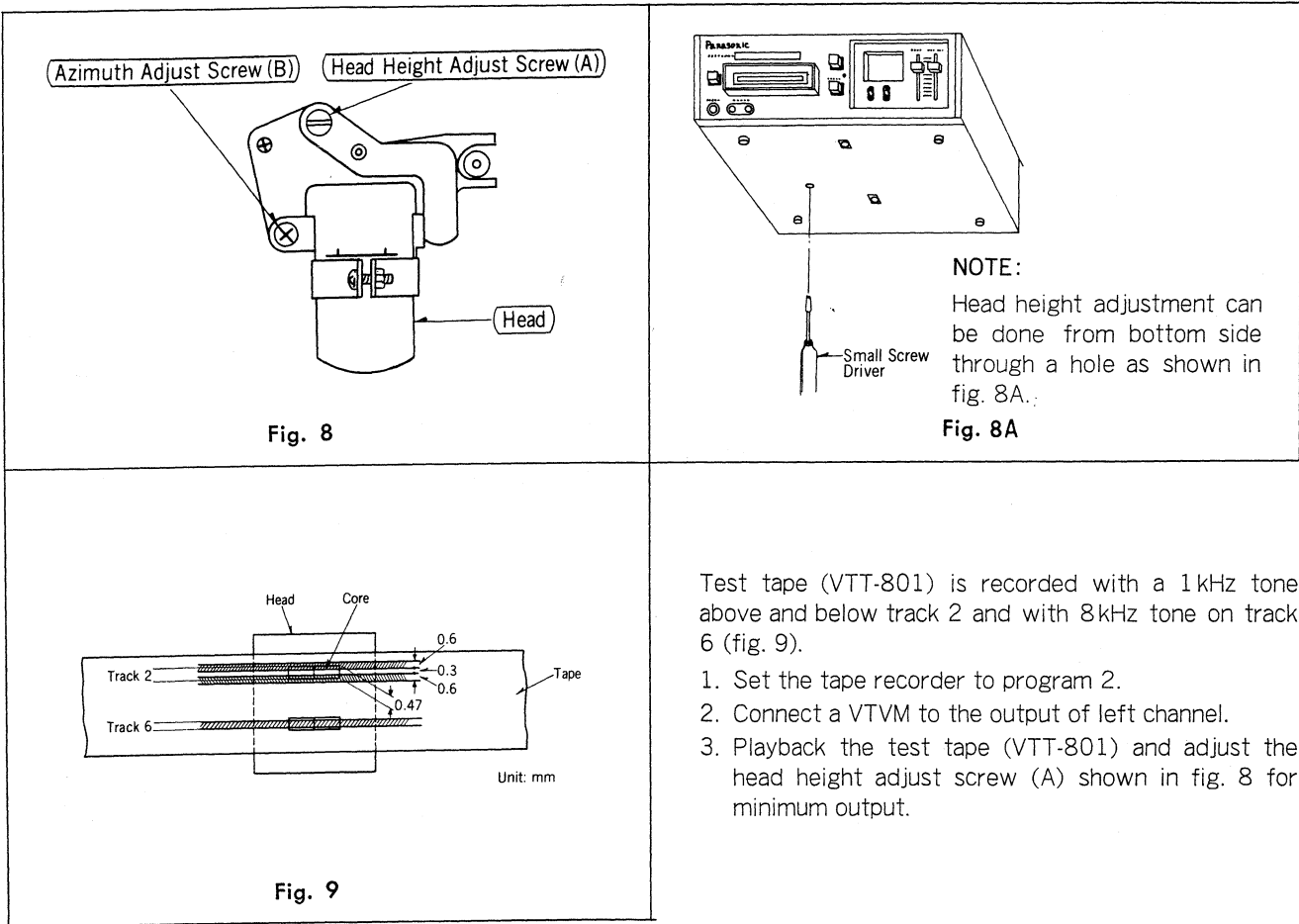


Fig. 7

AMPLIFIER ADJUSTMENTS

HEAD HEIGHT ADJUSTMENT

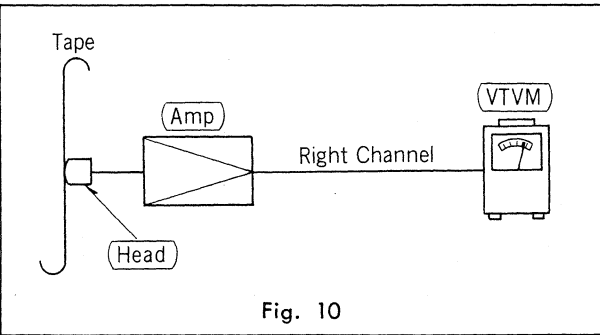
Instruments required: Height and azimuth test tape (VTT-801), VTVM.



AZIMUTH ADJUSTMENT

Instruments required:
Test tape (VTT-801), VTVM.

1. Set the tape recorder to program 2.
2. Connect a VTVM to the output of right channel.
3. Playback the test tape (VTT-801) and adjust the azimuth adjust screw (B) shown in fig. 8 so that the reading of the VTVM becomes maximum.



CROSSTALK ADJUSTMENT

Test tape (VTT-804) has 400Hz on channels 1, 3, 5 and 7, and no signal on channels 2, 4, 6 and 8.

1. Play each channel and measure the power ratio, using the VTVM, between each odd and even num-

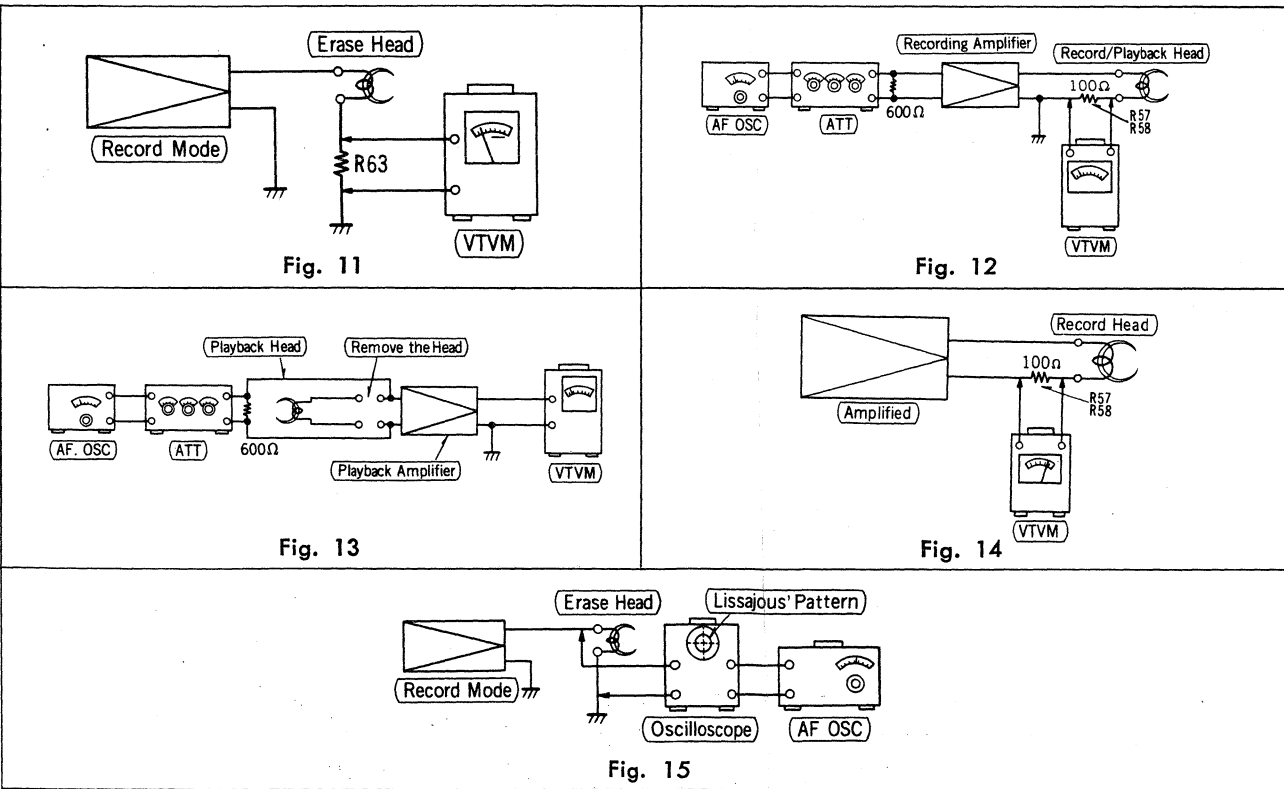
- bered track.
It should be at least 55 dB.
2. If the ratio is out of tolerance, repeat the azimuth and height adjustments.

ELECTRICAL ADJUSTMENTS

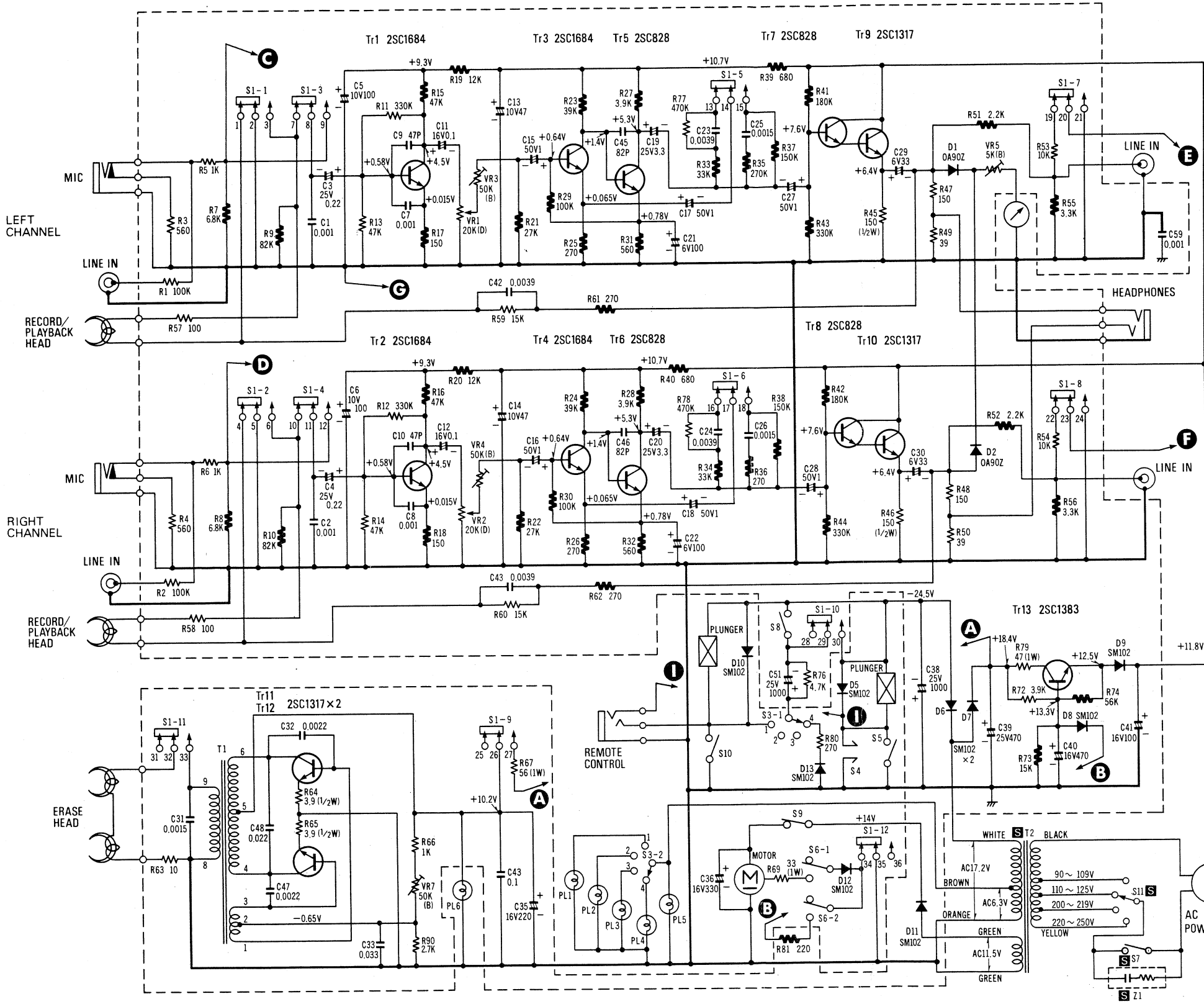
Measurement condition: Voltage.....120V Volume control.....Maximum

Instruments required: VTVM, AF OSC, oscilloscope, ATT, resistors (600Ω).

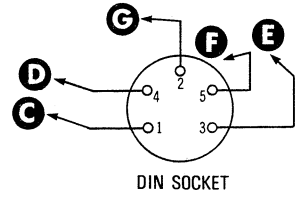
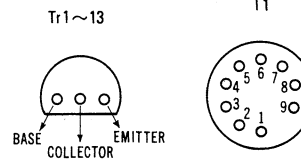
| ITEM | SIGNAL SOURCE CONNECTION | OUTPUT CONNECTION | MODE | ADJUSTMENT | SPEC. | REMARKS |
|------------------------------------|---|--|----------|------------|---------------------------------|--|
| Adjustment of erase current. | — | VTVM to both ends of R63 (10Ω) as shown in fig. 11. | Record | VR7 | $8 \pm 0.5 \text{ mA}$ | Set volume control to minimum. |
| Test of recording level. | 1 kHz MIC $-71 \pm 3 \text{ dB}$ LINE IN $-26 \pm 4 \text{ dB}$ | VTVM to both ends of R57 (left CH), R58 (right CH). See fig. 12. | Record | — | $58 \mu\text{A}$ (head current) | Stop the bias oscillation by unsoldering wire A as shown on printed circuit board (page 6). |
| Test of playback amplifier gain. | 500 Hz $-65 \pm 4 \text{ dB}$ as shown in fig. 13. | VTVM to LINE-OUT terminal. | Playback | — | 0.6 V | — |
| Adjustment of record bias current. | — | VTVM to both ends of R57 (left CH), R58 (right CH). See fig. 14. | Record | — | 1 mA | Set volume control to minimum. |
| Test of oscillation frequency. | — | Oscilloscope with AF OSC to both ends of erase head as shown in fig. 15. | Record | — | $40 \pm 5 \text{ kHz}$ | Adjust the AF OSC to obtain a circular and stationary lissajous' pattern on oscilloscope. The oscillation frequency is indicated by the scale of the AF OSC. |



SCHEMATIC DIAGRAM MODEL RS-805US



TERMINATIONS (BOTTOM VIEW)



- NOTE:**
1. S1-1 ~ S1-12 Record/playback select switch (shown in playback position).
 2. S3-1, S3-2 Program indication switch.
 3. S4 Sensing switch.
 4. S5 Program select switch.
 5. S6-1, S6-2 Playback/fast forward select switch (shown in playback position).
 6. S7 Power ON/OFF switch (ON position when record button is pressed or cartridge is inserted).
 7. S8 Panaject switch.
 8. S9 Safety switch.
 9. S10 Eject switch.
 10. S11 Voltage select switch.
 11. VR1, 2 Volume control.
 12. VR3, 4 Playback gain adjustment VR.
 13. VR5 Level indicator adjustment VR.
 14. VR7 Erase current adjustment VR.
 15. Resistor symbols made thick show printed type resistors.
 16. Resistor values are in ohms (Ω), 1/4 watt unless specified otherwise.
K = 1,000 Ω .
 17. Capacitor values are in microfarads (μ F) unless specified otherwise.
P = Pico-farads.
 18. All measurements are under no signal conditions with volume at minimum position.
Use VTVM for voltage measurements.

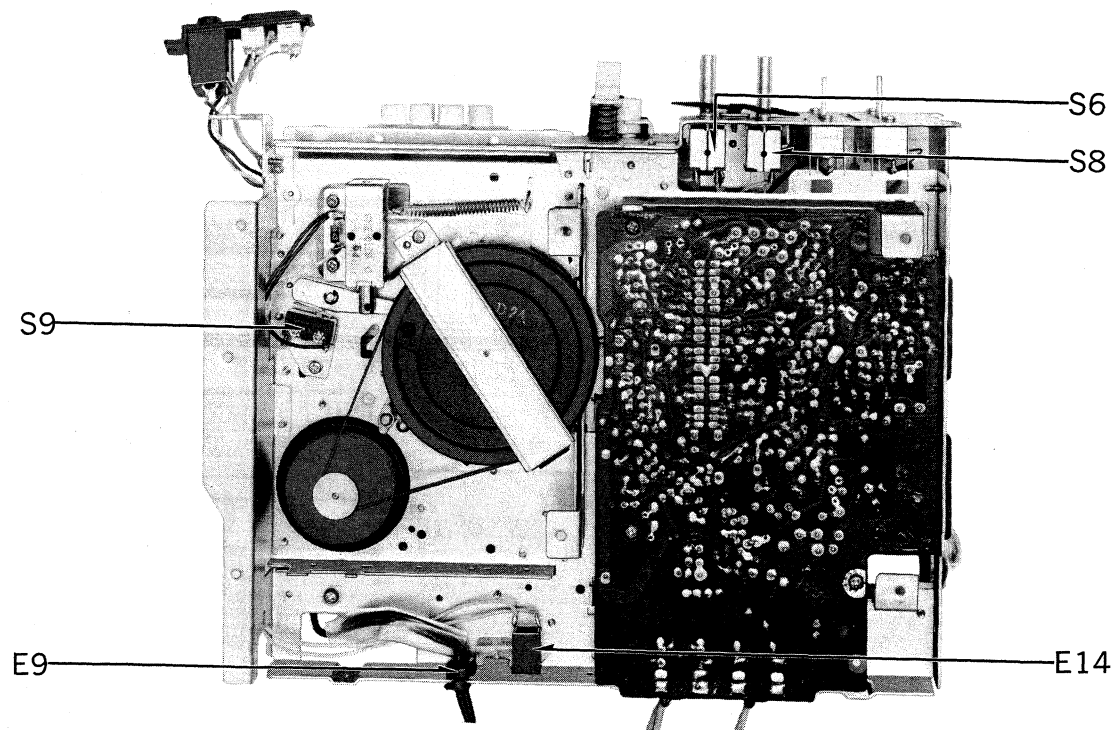
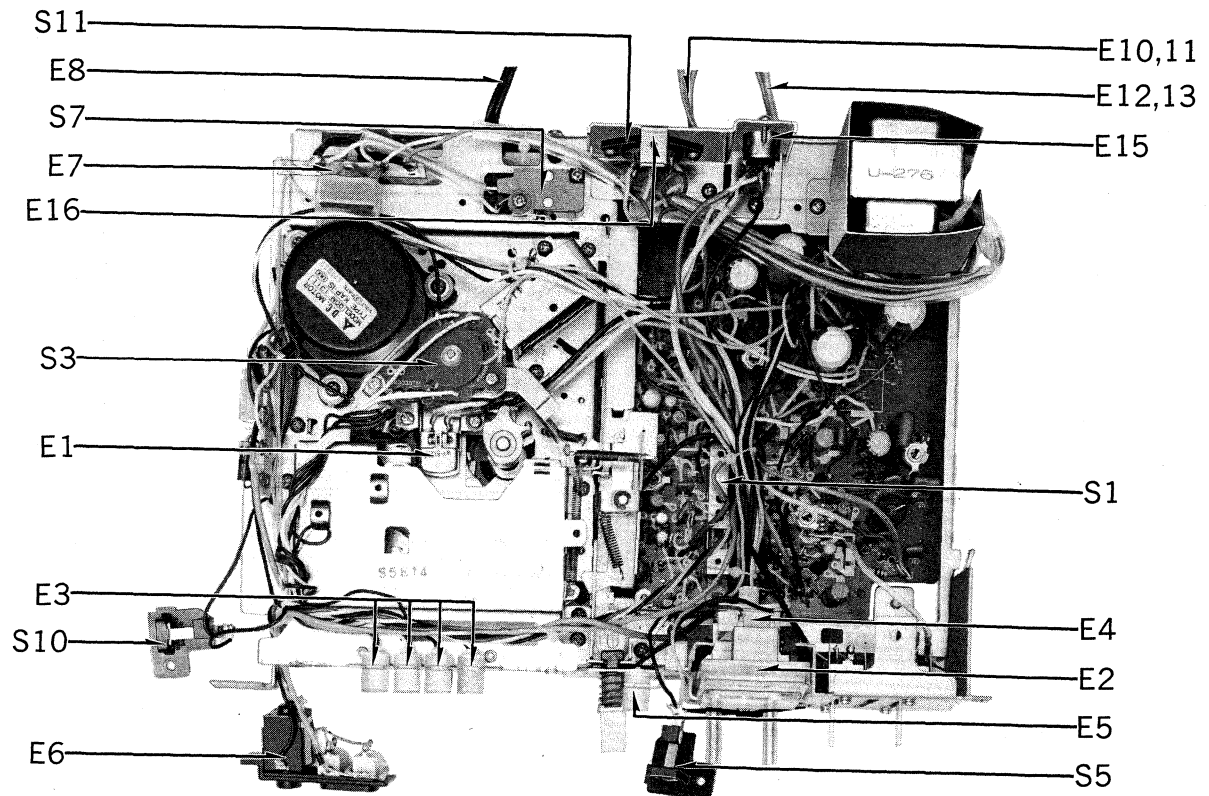
NOTE:
The circuit shown in red is the circuit shown in the photograph.

BLKBlack
BLUBlue
BRNBrown
GRYGray
GRNGreen
L.BLU ...Light Blue
NILNo Color Mark
ORGOrange
PNKPink
REDRed
SLDShield Wire
VLTViolet
WHTWhite
YELYellow

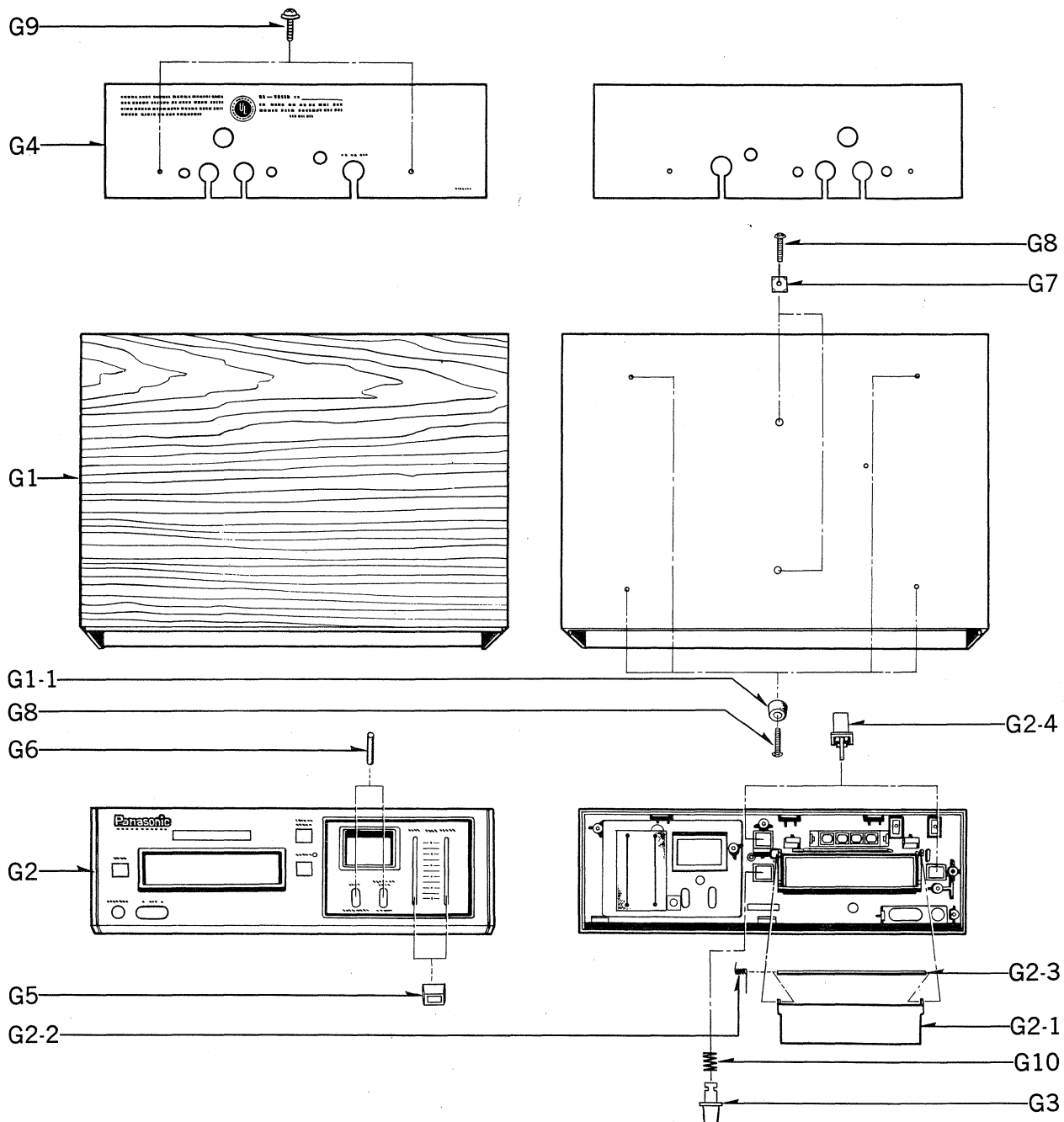
The circuit shown in red on the conductor is B circuit. Values indicated in are DC voltages between the chassis and electrical parts.

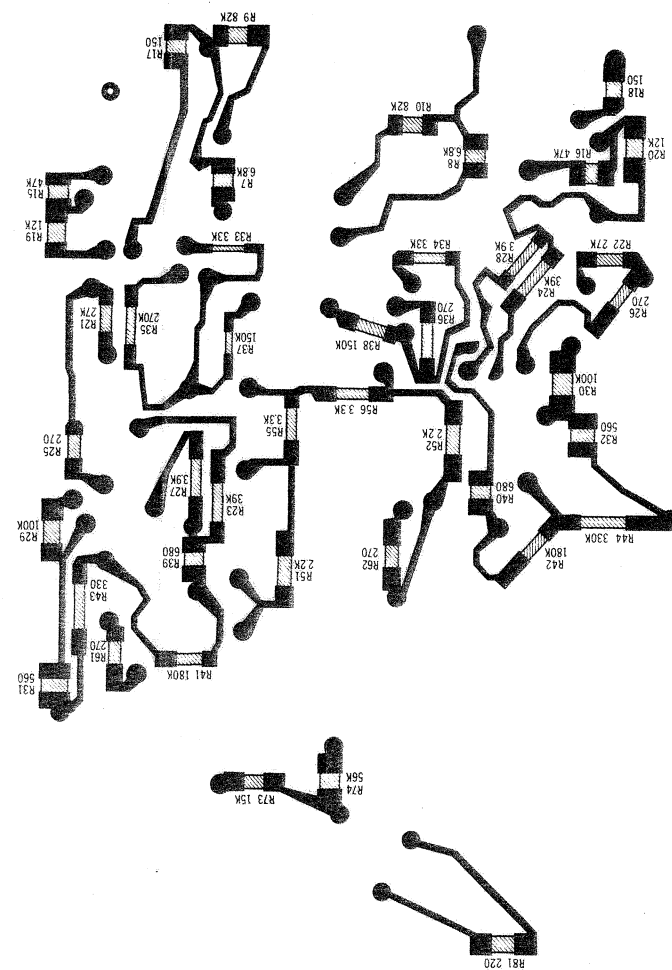
This diagram is an exploded view of a mechanical assembly, likely a motor or actuator. It shows the relationship between various components, which are labeled with 'M' followed by a number. The components are arranged in a hierarchical manner, showing how they fit together. Key parts include a central cylindrical component (M13), a motor or actuator unit (M20), a base plate (M14), and various mounting brackets and fasteners. The diagram uses dashed lines to indicate the assembly path and alignment of the parts. The labels M1 through M50 are distributed across the diagram, identifying each individual component.

ELECTRICAL PARTS LOCATION



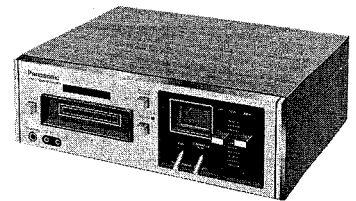
CABINET PARTS





REPLACEMENT PARTS LIST

MODEL RS-805US (Panasonic)



ATTENTION:

SAFETY indicated that only parts specified by the manufacturer be used for replacement in critical circuits.

This is the parts list for PX.

RS-805US

| Ref. No. | Description | Part No. | Per Set (Pcs.) | | Note |
|----------|------------------------------------|----------|----------------|--|------|
| | <u>MECHANICAL PARTS</u> | | | | |
| M1 | Tapping Screw $\oplus 3 \times 8$ | XTB3+8B | 12 | | |
| M2 | Tape Guide Unit (with S3) | QXZ0025 | 1 | | |
| M3 | Screw $\ominus 3 \times 10$ | XSN3-10S | 1 | | |
| M4 | Head Clamper | QMA2244 | 1 | | |
| M5 | Head Flat Spring Unit | QXJ0101A | 1 | | |
| M6 | Head Height Adjust Screw | QHQ1189 | 1 | | |
| M7 | Screw $\oplus 3 \times 6$ | XSN3+6S | 2 | | |
| M8 | Spring Washer 3ϕ | XWA3B | 5 | | |
| M9 | Head Angle Adjust Spring | QBC1166 | 1 | | |
| M10 | Head Plate Unit | QXH0179 | 1 | | |
| M11 | Head Pressure Spring | QBC1221A | 1 | | |
| M12 | Tapping Screw $\oplus 3 \times 12$ | XTB3+12B | 3 | | |
| M13 | Motor | QDM1311 | 1 | | |
| M13-1 | Eylet | QMP1418 | 3 | | |
| M13-2 | Rubber Cushion | QBG1349 | 3 | | |
| M14 | Belt | QDB0177 | 1 | | |
| M15 | Screw $\oplus 3 \times 6$ | XYN3+C6 | 2 | | |
| M16 | Ratchet Spring | QMF1611C | 1 | | |
| M17 | Cam Stopper | QGG0007A | 1 | | |
| M18 | Rubber Washer | QBW2002A | 1 | | |
| M19 | Plunger Spring | QBC1220 | 1 | | |
| M20 | Plunger | QME0140 | 1 | | |
| M21 | Lock Washer 2ϕ | XWC2B | 2 | | |
| M22 | Lock Holding Spring | QBT1682 | 1 | | |
| M23 | Lock Holding Plate | QML2531 | 1 | | |
| M24 | Stop Ring 3ϕ | XUC3FT | 2 | | |
| M25 | Flat Washer 3ϕ | XWG3FX | 1 | | |
| M26 | Stop Ring $E2\phi$ | XUC2FT | 1 | | |

| Ref. No. | Description | Part No. | Per Set (Pcs.) | | Note |
|-----------|------------------------------|----------------|-------------------|------------|------|
| M27 | Tetoron Washer | QBJ3099 | 2 | | |
| M28 | Cam | QMD0011 | 1 | | |
| M29 | Stop Ring E4 ϕ | XUC4FT | 1 | | |
| M30 | Back Tension Spring | QBCT0005 | 1 | | |
| M31 | Guide Plate Unit | QXH0180C | 1 | | |
| M32 | Roller | QDP1547 | 2 | | |
| M33 | Lock Lever-2 Unit | QXL0775 | 1 | | |
| M34 | Lock Lever Spring | QBT1686M | 1 | | |
| M35 | Lock Lever-1 Unit | QXL0824 | 1 | | |
| M36 | Flywheel Shaft Retainer Unit | QXM0134A | 1 | | |
| M37 | Poly Washer | QBJ3217 | 1 | | |
| M38 | Flywheel | QXF0105 | 1 | | |
| M39 | Flywheel Retainer Unit | QXA0203 | 1 | | |
| M40 | Screw $\oplus 3 \times 5$ | XSN3+5 | 1 | | |
| M41 | Switch Angle | QMH1132 | 1 | | |
| M42 | Screw $\oplus 2 \times 10$ | XSN2+10 | 2 | | |
| M43 | Eject Lever Unit | QXL0720A | 1 | | |
| M44 | Eject Spring | QBN1314A | 1 | | |
| M45 | Stop Ring E2.5 ϕ | XUC25FT | 1 | | |
| M46 | Plunger | QME0129C | 1 | | |
| M47 | Screw $\oplus 3 \times 5$ | XYN3+C5S | 3 | | |
| M48 | Stop Ring E5 ϕ | XUC5FT | 1 | | |
| M49 | Lamp Lever Assembly | QXL0795 | 1 | | |
| M50 | Lamp Lever Spring | QBT1685 | 1 | | |
| M51 | Motor Pulley | QXP0512 | 1 | | |
| M51-1 | Motor Pulley Set Screw | XXE3D5FZS | 1 | | |
| | <u>RESISTORS</u> | | | | |
| R1, 2 | Carbon Resistor | 100 K Ω | 1/4 W | ERD14VJ104 | 2 |
| R3, 4 | ” | 560 Ω | 1/4 W | ERD14VJ561 | 2 |
| R5, 6, 66 | ” | 1 K Ω | 1/4 W | ERD14VJ102 | 3 |
| R11, 12 | ” | 330 K Ω | 1/4 W | ERD14VJ334 | 2 |
| R13, 14 | ” | 47 K Ω | 1/4 W | ERD14VJ473 | 2 |
| R45, 46 | Solid Resistor | 150 Ω | 1/2 W | ERC12GM151 | 2 |
| R47, 48 | Carbon Resistor | 150 Ω | 1/4 W | ERD14VJ151 | 2 |

| Ref. No. | Description | Part No. | Per Set (Pcs.) | | Note |
|----------------------------|--|--------------|-------------------|--|------|
| R49, 50 | Carbon Resistor 39 Ω 1/4 W | ERD14VJ390 | 2 | | |
| R53, 54 | " 10 K Ω 1/4 W | ERD14VJ103 | 2 | | |
| R57, 58 | " 100 Ω 1/4 W | ERD14VJ101 | 2 | | |
| R59, 60 | " 15 K Ω 1/4 W | ERD14VJ153 | 2 | | |
| R63 | " 10 Ω 1/4 W | ERD14VJ100 | 1 | | |
| R64, 65 | Wire-wound Resistor 39 Ω 1/2 W | ERM12PK3R9 | 2 | | |
| R67 | Solid Resistor 56 Ω 1 W | ERC1GM560 | 1 | | |
| R69 | " 33 Ω 1 W | ERC1GM330 | 1 | | |
| R72 | Carbon Resistor 3.9 K Ω 1/4 W | ERD14VJ392 | 1 | | |
| R76 | " 47 K Ω 1/4 W | ERD14VJ472 | 1 | | |
| R77, 78 | " 470 K Ω 1/4 W | ERD14VJ474 | 2 | | |
| R79 | Solid Resistor 47 Ω 1 W | ERC1GM470 | 1 | | |
| R80 | Carbon Resistor 270 Ω 1/4 W | ERD14VJ271 | 1 | | |
| R90 | " 2.7 K Ω 1/4 W | ERD14VJ272 | 1 | | |
| | <u>VARIABLE RESISTORS</u> | | | | |
| VR1, 2 | Variable Resistor 20 K Ω (D) | EVA72AA00D24 | 2 | | |
| VR3, 4, 7 | Semi-fixed Variable Resistor 50 K Ω (B) | EVLS3AA00B54 | 3 | | |
| VR5 | " 5 K Ω (B) | EVLS3AA00B53 | 1 | | |
| | <u>CAPACITORS</u> | | | | |
| C1, 2 | Ceramic Capacitor 0.001 μ F | ECKD1H102KB | 2 | | |
| C3, 4 | Electrolytic Capacitor 0.22 μ F | ECEA25VR22M | 2 | | |
| C5, 6 | " 100 μ F | ECEA10V100L | 2 | | |
| C7, 8, 59 | Ceramic Capacitor 0.001 μ F | ECKD1H102PF2 | 3 | | |
| C9, 10 | " 47 pF | ECCD1H470K | 2 | | |
| C11, 12 | Electrolytic Capacitor 0.1 μ F | ECEA50ZR1 | 2 | | |
| C13, 14 | " 47 μ F | ECEA10V47L | 2 | | |
| C15, 16, 17, 18, 27, 28 | " 1 μ F | ECEA50V1L | 6 | | |
| C19, 20 | " 3.3 μ F | ECEA25V3R3L | 2 | | |
| C21, 22 | " 100 μ F | ECEA6V100L | 2 | | |
| C23, 24, 42, 43 | Mylar Capacitor 0.0039 μ F | ECQM05392MZ | 4 | | |
| C25, 26, 31 | " 0.0015 μ F | ECQM05152MZ | 3 | | |
| C29, 30 | Electrolytic Capacitor 33 μ F | ECEA6V33L | 2 | | |
| C32, 47 | Ceramic Capacitor 0.0022 μ F | ECKD1H222KB | 2 | | |

| Ref. No. | Description | Part No. | Per Set (Pcs.) | Note |
|---------------------------------|---|--------------|----------------|------|
| C33 | Mylar Capacitor 0.033 μ F | ECQM05333MZ | 1 | |
| C34 | " 0.1 μ F | ECQM05104MZ | 1 | |
| C35 | Electrolytic Capacitor 220 μ F | ECEA16V220L | 1 | |
| C36 | " 330 μ F | ECEA16V330L | 1 | |
| C38 | " 1000 μ F | ECEA25V1000L | 1 | |
| C39, 51 | " 470 μ F | ECEA25V470L | 2 | |
| C40 | " 470 μ F | ECEA16V470L | 1 | |
| C41 | " 100 μ F | ECEA16V100L | 1 | |
| C45, 46 | Ceramic Capacitor 82 pF | ECCD1H820K | 2 | |
| C48 | Mylar Capacitor 0.022 μ F | ECQM05223MZ | 1 | |
| <u>COMBINATION PARTS</u> | | | | |
| Z1 | CR Combination Part SAFETY | QCR0008T | 1 | |
| <u>TRANSISTORS</u> | | | | |
| Tr1, 2, 3, 4 | Transistor | 2SC1684 | 4 | |
| Tr5, 6, 7, 8 | " | 2SC828 | 4 | |
| Tr9, 10, 11, 12 | " | 2SC1317 | 4 | |
| Tr13 | " | 2SC1383 | 1 | |
| <u>DIODES</u> | | | | |
| D1, 2 | Diode | OA90Z | 2 | |
| D5, 6, 7, 8, 9, 10, 11, 12, 13 | " | SM102 | 9 | |
| <u>TRANSFORMERS</u> | | | | |
| T1 | Oscillator Transformer | QLB0170S | 1 | |
| T2 | Power Transformer SAFETY | QLPN30IKH | 1 | |
| <u>SWITCHES</u> | | | | |
| S1 | Slide Switch (Record/Playback) | QSS1192 | 1 | |
| S3 | Rotary Switch (Program Indication) | QSR0030TM | 1 | |
| S4 | Sensing Switch (Interlock with M2) | — | (1) | |
| S5 | Leaf Switch (Program Selector) | QSB0211 | 1 | |
| S6 | Lever Switch (Fast Forward Selector) | QST0021S | 1 | |
| S7 | Micro Switch (Power ON/OFF) SAFETY | QSM0062A | 1 | |

| Ref. No. | Description | Part No. | Per Set (Pcs.) | | Note |
|----------|--|------------|-------------------|--|----------------|
| S8 | Lever Switch (Panaject) | QST0021S | 1 | | |
| S9 | Micro Switch (Safety Switch) | QSM0040A | 1 | | |
| S10 | Leaf Switch (Eject) | QSB0211 | 1 | | |
| S11 | Rotary Switch (Voltage Select) SAFETY | QSR0004B | 1 | | |
| | <u>ELECTRICAL PARTS</u> | | | | |
| E1 | Head | WY812AZ | 1 | | |
| E2 | Level Meter | QSL1030LM | 1 | | |
| E3 | Pilot Lamp | XAMQ11P300 | 4 | | |
| E4 | " | XAMQ16P300 | 1 | | |
| E5 | " | XAMQ27P300 | 1 | | |
| E6 | Jack Plate Assembly | QTS0264HM | 1 | | |
| E7 | 4P Lug Terminal | QJT4012 | 2 | | |
| E8 | AC Power Cord SAFETY | QFC1041 | 1 | | |
| E9 | Heyco Bushing | QTD1129 | 3 | | |
| E10 | Pin Cord-L (LINE-IN) | QFC2096 | 1 | | |
| E11 | Pin Cord-R (LINE-IN) | QFC2097 | 1 | | |
| E12 | Pin Cord-L (LINE-OUT) | QFC2066A | 1 | | |
| E13 | Pin Cord-R (LINE-OUT) | QFC2067A | 1 | | |
| E14 | Remote Jack | QJA0134A | 1 | | |
| E15 | Din Socket | QJS0747 | 1 | | |
| E16 | Din Socket Holding Angle | QMA2198 | 1 | | |
| | <u>CABINET PARTS</u> | | | | |
| G1 | Main Body Case Assembly | QKW1277 | 1 | | |
| G2 | Panel Assembly | QYP0546 | 1 | | |
| G2-1 | Cartridge Lid | QKF1447 | 1 | | |
| G2-2 | Cartridge Lid Spring | QBN1197 | 1 | | |
| G2-3 | Cartridge Lid Shaft | QMN1684 | 1 | | |
| G2-4 | Button Assembly | QXB0193H | 2 | | |
| G3 | " | QXB0208H | 1 | | |
| G4 | Back Board | QKS1202 | 1 | | |
| (G4) | Back Board | QKS1203 | 1 | | Europe PX only |
| G5 | Volume Knob Assembly | QYT0364 | 2 | | |
| G6 | Lever Knob | QGT1242 | 2 | | |

